December 21, 2017 EPA Review of Union Carbide Corp. Institute Facility Screening Level Human Health Risk Assessment for Soil and Shallow Groundwater dated July 2016

1. Sections 3.3.4 - Lead, 5 - Human Health Risk Summary, and Table 29

Contrary to these sections and table, the correct EPC for lead to compare to the IEUBK model screening value is the average for a given exposure unit and soil interval, not the UCL. Revise Table 29 and these sections to compare lead averages to the RSL, and refer to lead averages.

2. Section 3.4.2, EU 2

No subsurface soil data was collected or evaluated for EU 2. It is therefore unknown if that media would pose a risk to future construction workers. Revise this section accordingly and address this data gap.

3. Sections 3.4 to 5

Revise within one of these sections, or provide a new section, to describe in detail how each elevated HI will be remediated. For EU 4, provide a concise and more detailed explanation of why the elevated HI does not warrant remediation.

4. Table 3 (Soil Sample Summary Table) and Lab Data 2011 – 2015 CD

a) For Exposure Unit 1, the SDG for the subsurface soil samples that include INS-496 to 497 is listed as L15081602 in the Excel SDG file, but this 2015 SDG cannot be found in the applicable CD. Provide the SDG.
b) For Exposure Unit 6 subsurface soils, EPA attempted to verify that the results for sample 0256 in SDG L12080212 were present in the ProUCL input file. While the SVOC results (0256D) were present in the input file, only certain metals from that same sample were present in the ProUCL input file (antimony, barium, cadmium, cobalt, copper, manganese, mercury, silver, and selenium). Explain.

5. Table 23, Summary Statistics for Subsurface Soil – EU 7

The total observations shown for naphthalene in this table are in error: 33 results are included for subsurface, not 52. Correct.

6. Table 53, Risk Estimates for Shallow Groundwater

Revise this table to explain that the shallow groundwater results were collected between 10 and 20 feet bgs, too deep for construction worker exposure; thus, no construction worker risks were evaluated for the shallow groundwater.

7. Summary Statistics Tables

Lead should not have been included in any summary statistics table, since lead is not evaluated via UCLs.